

TWELVE ADDITIONS TO THE FLORA OF RHODE ISLAND.

M. L. FERNALD.

WHILE visiting in Providence during the latter part of September I had the pleasure of joining Miss Margaret H. Grant and Professor J. Franklin Collins on visits to the stations of some rare plants of Rhode Island. Though the object of the excursions was primarily to see certain species already known to botanists of the state, many other plants of interest were found, among them twelve species and varieties which a search of local lists and notes fails to show as recognized in the Rhode Island flora.

The first place visited was a patch of swampy woods near Nayatt station in the town of Barrington, where, in the lower areas *Woodwardia virginica* and *W. areolata* (*W. angustifolia*) and *Osmunda cinnamomea* were sufficiently abundant to be cited as characteristic plants, while in the open somewhat drier sandy spots *Rhexia virginica* and *Rhynchospora glomerata* were conspicuous species. In this limited region the following plants apparently unrecorded from the state were found.

ASPIDIUM SIMULATUM Davenport. Abundant in wet woods with *Woodwardia areolata*.

OSMUNDA CINNAMOMEA L., var. GLANDULOSA Waters. Several large plants, among more numerous individuals of the typical glabrous form of the species, at the edge of the woods. It is interesting that at both the stations already recorded for this noteworthy variety,—Mr. Waters's original locality near Glen Burnie, in Anne Arundel county, Maryland¹ and Mr. Saunders's station near Clementon, New Jersey²—typical *O. cinnamomea* and the two *Woodwardias* were present, and at Mr. Waters's station *Aspidium simulatum* as well. All these plants occur in the wooded swamp in Barrington.³

HELIANTHUS MOLLIS Lam. Abundant in sandy soil by the roadside in one portion of the swamp. This very distinct Sunflower has

¹ C. E. Waters, Fern Bull. x. 21 (1902).

² C. F. Saunders, Fern Bull. xi. 52 (1903).

³ Mr. W. N. Clute has recently summarized the two previous records of the habitat of *Osmunda cinnamomea*, var. *glandulosa* as "found in dryish situations" (Fern Bull. xiii. 119), although it is not easy to see how such a deduction can be made from the "low sphagnum woods" of Mr. Waters's account or the "low woods" of Mr. Saunders's record.

been found recently at various points along the northern sea-board,—in New Jersey, on Long Island, and in 1903 near Fall River, Massachusetts. At its only recorded New England station, in a field near Fall River, its discoverer, Mr. Sanford¹ considered the plant an introduction, derived from cotton waste. At Barrington, on the other hand, there is nothing except the proximity of a country-road to suggest the introduction of the plant, which is as apparently indigenous as the various ferns, the *Rhexia*, and other coastal plain plants of the region.

BIDENS DISCOIDEA (T. & G.) Britton. This distinctive plant of the coastal plain is probably common in Rhode Island as it is in adjacent Massachusetts and portions of Connecticut. It was found in the Barrington swamp, growing commonly on decaying logs and inundated fallen branches; and it was seen, though less abundantly, in a swamp near Lime Rock in the town of Lincoln.

The second region visited was in the town of Lincoln. Portions of this township are strongly calcareous, and at one point, Lime Rock, several lime quarries have been opened. Within the township we found many characteristic plants of calcareous soils which are already known from Rhode Island, but the following eight species, which it is the purpose here specially to note, are apparently additions to the flora of the state.

PANICUM MINUS Nash. Open gravelly soil in a railroad-cut.

JUNCUS DEBILIS Gray. In J. L. Bennett's "Plants of Rhode Island," this rush is listed as *J. acuminatus*, var. *debilis*; but, when preparing the Preliminary List of New England Juncaceae,² I was unable to verify the report, and saw the species only from Connecticut. *J. debilis* was found in great abundance with *J. Dudleyi*, *Paranassia caroliniana*, and other lime-loving plants at the border of a pond near one of the quarries at Lime Rock. The plants were very luxuriant, often 8 dm. high, with inflorescences 1.5 dm. long. But the most striking feature of the plants is the remarkable development of autumnal flowers, such as is known to me only in specimens collected by Ravenel in 1866 near Aiken, South Carolina. This plant of Ravenel's (Engelm. Herb. Junc. Norm., no. 61) Engelm. characterized as an autumnal form "in which the heads by

¹ S. N. F. Sanford, *RHODORA*, vi. 88 (1904).

² *RHODORA*, vi. 34-41 (1904).

renewed vegetation of their axis degenerate into spikes.”¹ Normal *J. debilis* matures in early summer and has 2 to 7 flowers in a head. The late-flowering form at Lime Rock, like the Ravenel plant, has the heads mostly prolonged into many-flowered spikes, the longest 8 mm. long.

POLYGONUM CRISTATUM Engelm. & Gray. Abundant on a gravelly bank, Lincoln. Formerly unknown east of Connecticut.

AGRIMONIA MOLLIS (T. & G.) Britton. Found at various spots in Lincoln, in rocky (calcareous) open woods and thickets. Previously unknown east of Connecticut, where it is rare. The only herbarium-label which I find recording the lithological character of the habitat of *A. mollis* is one of Mr. A. A. Heller's, stating that in Lancaster County, Pennsylvania, the plant occurs in limestone, a soil-preference which it clearly follows in Rhode Island.

AMPHICARPAEA PITCHERI T. & G. Very abundant and climbing extensively to the height of eight or ten feet over shrubs, in alluvial woods, near a lime outcrop at Lime Rock. The vines form a close tangle covering perhaps an acre of ground, and when found were in abundant and very typical fruit. This plant, which is generally known from western New York to Missouri, Louisiana, and Texas, is very clearly a member of the New England flora. Twice before it has been reported,—from Winchester and Revere, Massachusetts, and from near Bridgeport, Connecticut; but in his discussion of the New England Leguminosae in 1900, Judge J. R. Churchill² was inclined to discredit the status of the species in New England. The Rhode Island plant is quite like material from the Mississippi Basin, the margins of the pods being covered with stiff mostly retrorse hairs.

GERARDIA PARVIFOLIA Chapm. (*G. Skinneriana* of many authors, not Wood. *G. decemloba* Greene).³ This beautiful coastal plain species is not cited from Rhode Island by Judge Churchill in his Preliminary List of New England *Scrophulariaceae*.⁴ It occurs with other pine-

¹ Engelm., Trans. St. Louis Acad. Sci. ii. 466 (1868).

² RHODORA, ii. 91 (1900).

³ The plant of sandy soils near the coast, from Massachusetts to Florida and Louisiana, should be called *G. parvifolia* Chapm., for it is clearly that species and not the plant described by Wood as *G. Skinneriana*, with which it has been confused. The latter species is a plant of the interior, from Ontario to Minnesota, Tennessee and Missouri, with the rose-colored corolla-lobes rounded or merely emarginate at tip and the capsule globose; while the coastal plant, *G. parvifolia*, has the lobes of the bright-pink corolla obcordate and the capsule oblong-ovoid.

⁴ RHODORA, vii. 33-38 (1905).

barren plants on a sandy plain between Lime Rock and the Blackstone River.

BIDENS VULGATA Greene. Fully as common in the calcareous region as the ordinarily more abundant *B. frondosa*.

BIDENS COMOSA (Gray) Wiegand. In limy soil, near "Dexter lime-rock." Already known locally in Massachusetts and Connecticut.

GRAY HERBARIUM.

RECORDS OF THE CONNECTICUT BOTANICAL SOCIETY,— II.

E. B. HARGER, Cor. Secr.

THE CONNECTICUT BOTANICAL SOCIETY held three excursions during the summer of 1906.

The first excursion was to the trap and sandstone region of the valley of the Pomperaug River, which is interesting as being a detached area of a few square miles of a geological formation otherwise found in this state only in the Connecticut River Valley. After leaving the station at Pomperaug Valley about 9 A. M. the party first stopped at a field near by which was filled with *Pentstemon pallidus* Small., a species here quite different in aspect and habit from *P. hirsutus* (L.) Willd., which is found not far distant. At the next halt, near the Pomperaug River, Messrs. Weatherby and Harger found *Galium verum* L. and *Parietaria Pennsylvanica* Muhl. The party then proceeded to the only known New England station for *Phlox pilosa* L. (see RHODORA 1: 76), which was found to be in full bloom and apparently increasing. A quantity of *Convolvulus spithameus* L. was found near by. Most of the party then walked to the Housatonic River, returning from the station at Sandy Hook; but on account of the great heat and an impending shower little more collecting was done.

The second excursion, with Mr. H. S. Clark for guide, was to the Reservoir Parks, west of Hartford in the town of Farmington, and was held Aug. 22nd. Showers in the morning reduced the attendance but those who went saw, among other things, *Rosa setigera* Michx., *Aster infirmus* Michx. and *Solidago squarrosa* Muhl.; while